CATALYZING CLEAN ENERGY IN BANGLADESH PROGRAM ANNUAL PERFORMANCE REPORT

October 1, 2015 - September 30, 2016

November 15, 2016

This publication was produced for review by the United States Agency for International Development. It was prepared by Deloitte Consulting LLP.

CATALYZING CLEAN ENERGY IN BANGLADESH PROGRAM

ANNUAL PERFORMANCE REPORT

OCTOBER 1, 2015 – SEPTEMBER 30, 2016

CATALYZING CLEAN ENERGY IN BANGLADESH (CCEB)
CONTRACT NUMBER: AID-388-C-13-00001
DELOITTE CONSULTING LLP
USAID/BANGLADESH ECONOMIC GROWTH OFFICE
NOVEMBER 15, 2016

ACRONYMS

The following table provides a list and description of acronyms used in this report.

Table 1: List of Acronyms and Definitions

Acronym	Definition
ACME	Accelerating Capacity for Monitoring and Evaluation
ADB	Asian Development Bank
AEE	Association of Energy Engineers
BEO	USAID Bureau Environmental Officer
BCSIR	Bangladesh Council of Scientific and Industrial Research
BERC	Bangladesh Energy Regulatory Commission
BPDB	Bangladesh Power Development Board
BGMEA	Bangladesh Garment Manufacturers and Exporters Association
BIBM	Bangladesh Institute of Bank Management
BJMA	Bangladesh Jute Mills Association
BKMEA	Bangladesh Knitwear Manufacturers and Exporters Association
BSTI	Bangladesh Standard Testing Institution
CCEB	Catalyzing Clean Energy in Bangladesh
CEA	Certified Energy Auditor
CEM	Certified Energy Manager
COR	Contracting Officer's Representative
CO2	Carbon di oxide
CSR	Corporate Social Responsibility
DESCO	Dhaka Electric Supply Company
DPDC	Dhaka Power Distribution Company
DOE	Department of Energy
DSM	Demand Side Management
EE	Energy Efficiency
EEIO	Energy Efficiency Improvement Option
EMMP	Environmental Mitigation and Monitoring Plan
EPA	Environmental Protection Agency
EOI	Expression of Interest
FI	Financial Intermediary
FIT	Feed-in-Tariff
ERRA	Energy Regulators Regional Association
GACC	Global Alliance for Clean Cookstoves
GCC	Global Climate Change
GCPF	Global Climate Partnership Fund
GHG	Greenhouse Gas
GIZ	Deutsche Gesellschaft fur Internationale Zusammenarbeit GmbH (Germany)
GJ	Gigajoules
GOB	Government of Bangladesh
ICS	Improved Cookstoves
IDCOL	Infrastructure Development Company

IDLC	Industrial Development Leasing Company
IIDFC	Industrial and Infrastructure Development Finance Company
IFC	International Finance Corporation
IFIC	International Finance Investment and Commerce Bank
IG	Investment Grade (Audit)
IPR	Intellectual Property Rights
ISO	International Standard Organization
LOC	Letter of Cooperation
LOP	Life of Project
MFI	Microfinance Financial Institution
MFP	Market Facilitation Platform
MOA	Memorandum of Association
MOE	Ministry of Education
MOPEMR	Ministry of Power, Energy and Mineral Resources
MT	Metric Ton
MW	Mega Watt
NBFI	Non-Bank Financial Intermediary
NGO	Non-Governmental Organization
OJT	On-the-Job
PO	Partner Organizations
PDB	Power Development Board
PMEP	Performance Monitoring and Evaluation Plan
POP	Period of Performance
PSPAM	Power Sector Policy Analysis Model
PKSF	Palli Karma Sahayak Foundation
PURC	Public Utility Regulatory Commission
QC	Quality Control
RFA	Request for Application
RFP	Request for Proposal
SDOB	Social Development Organization of Bangladesh
SME	Small and Medium Enterprise
SMC	Social Marketing Corporation
SOP	Standard Operating Procedure
SOW	Scope of Work
STTA	Short Term Technical Assistance
SREDA	Sustainable and Renewable Energy Development Authority
TA	Technical Assistance
TBP	Textile Best Practices
TEC	Technical Evaluation Committee
TOU	Time of Use
TV	Television
USAID	United States Agency for International Development
USEPA	US Environmental Protection Agency
WBT	Water Boiling Test
WT	Walk Through (Audit)

TABLE OF CONTENTS

Executive Summary

Contract number AID-388-C-13-00001 between the United States Agency for International Development (USAID) and Deloitte Consulting LLP became effective on October 10, 2012 with concurrence to begin mobilization on November 4, 2012. The period of performance for this contract is the five-year period from the effective date of the award through October 9, 2017. This annual report covers the fourth year of implementation, October 1, 2015 through September 30, 2016, per Section F.3 of the Contract.

In year 4, CCEB successfully completed the tasks according to the work plan. In summary:

Task 1 – Improved Regulatory Environment: In year 4, CCEB focused on capacity building of BERC, assisting BERC in energy efficiency initiatives and implementation of an e-docketing and data management system at BERC's main office. The CCEB Team worked closely with the BERC Chairman, Commission members, and other senior and mid-level officials.

In year 4, CCEB continued to provide technical assistance and advisory services to BERC to obtain approval for the revised organizational structure, which it developed in year 3. Upon approval of the revised organization structure, BERC will be able to recruit and retain an adequate number of qualified staff to carry out the functions mandated by the BERC Act of 2003. Further, CCEB assisted BERC in revising the proposed organizational structure, taking into account the recent observations and decisions of the Committee of the Energy Division. On October 10, 2016, BERC re-submitted the revised proposal to the Energy Division for approval.

In addition, CCEB worked with BERC to conduct an energy regulatory audit for the Ghorashal Power Plant (Unit 5, 210 MW), producing both an energy regulatory audit report for Ghorashal's Unit 5 as well as an audit manual. CCEB finalized the Ghorashal Power Plant audit report and the broader manual in September 2016 and submitted it to BERC. The audit report and companion audit manual will serve as a model and guide for conducting future power plant audits by power generation utilities for improving overall power generation efficiency. In addition, it will result in the reduction of greenhouse gas (GHG) emissions.

With respect to the introduction of the electronic case docketing and data management (e-docketing) system at BERC, CCEB completed significant advancement in year 4. CCEB refreshed the e-docketing proposal for implementation in a modular approach, beginning with a licensing function. BERC accepted the proposal. CCEB developed an Expression of Interest (EOI) for the licensing function of the e-docketing system, with the intent of evaluating potential software development firms and to generate a shortlist of vendors for BERC's consideration and publication. In parallel, CCEB prepared a Request for Proposal (RFP) for sharing with shortlisted software developers. CCEB assisted BERC's RFP Evaluation Committee to evaluate the submitted proposals. BERC submitted the evaluation report of the technical proposals to the Commission and received approval to open the financial proposal of the technically qualified bidders. BERC will open the financial proposals in early year 5 (on October 24, 2016) and will evaluate submissions to select and contract a vendor for development and installation of the licensing module of the e-docketing system.

At the request of BERC, CCEB reviewed the draft Feed-in Tariff (FIT) regulation for wind and solar energy, providing a revised FIT to BERC on February 18, 2016. The regulation stipulates procedures for determination of FITs for renewable energy generation facilities. Upon adoption, BERC will begin determining FITs for wind and solar energy on a *suo motu* basis annually, which will be applicable for the commissioned facilities in the respective years to be connected to the electricity grid.

CCEB reviewed and finalized the "Draft Bangladesh Energy Regulatory Commission Imposition of Administrative Fine and Treating as Offence Regulations, 2014'' and submitted the final revised draft to BERC on January 7, 2016. The developed regulation will help BERC in achieving the compliance of BERC orders. Presently, BERC is reviewing the revised regulation for adoption.

CCEB supported two BERC officials in participating in an international training program in Hungary. The participants attended the "Introduction to Energy Regulation" in Budapest, organized by the Energy Regulators Regional Association (ERRA). The two BERC officials successfully completed the training held on June 20 - 24, 2016. One of the participants placed second in the examination among twenty-five international participants. CCEB also assisted one of the BERC senior officials to participate in the Public Utility Research Center (PURC) energy pricing training on July 31 - August 05, 2016 in Florida, USA. However, the BERC official could not participate in the training due to health reasons and returned to Bangladesh without having attended the course.

Task 2 – Energy Policy: All activities of Task 2 have been completed at the end of year 3. However, in a very limited capacity CCEB continued follow-up on use of both the Repository and the Power Sector Policy Analysis Model (PSPAM) tools by the Bangladesh Power Distribution Board (BPDB) and Power Cell to ensure continuity and appropriate use. As a part of the follow-up, CCEB helped Power Cell staff attend the technical session on "National Emissions Inventory" arranged by USAID and the US Environmental Protection Agency at the Department of Environment (DOE) on February 9, 2016. The session provided capacity building for DOE sector leads, United Nations Development Program consultants, and other relevant GOB stakeholders.

Task 3 – Industrial Energy Efficiency: In year 4, CCEB completed two workshops on technical issues related to energy efficiency in industrial facilities. CCEB held the first workshop, called "Technical Best Practices on Industrial Energy Efficiency," in Chittagong and the second workshop, called "Catalyzing Clean Energy in Bangladesh's Activities & Stakeholders' Engagement in Industrial EE," in Dhaka. CCEB planned a third workshop on "Technical Best Practices on Industrial Energy Efficiency" for year 4, but due to delays, CCEB will deliver the workshop in year 5. To ensure maximum impact, CCEB implemented these workshops in collaboration with appropriate business associations and chambers of commerce, including the Bangladesh Garment Manufacturers and Exporters Association (BGMEA), the Bangladesh Knitwear Manufacturers and Exporters Association (BKMEA), the Bangladesh Jute Mills Association (BJMA), the Steel Association, the Frozen Food Association, technology service providers, grant recipients, energy service providers, and others.

CCEB's enlisted energy audit firms completed ten investment grade (IG) energy audits for new possible grant recipients under Tranche 6. Following the completion of the energy audits, manufacturers are in the process of developing and submitting grant proposals for consideration. CCEB was supposed to fund ten IG Audits but could not process these within the year. CCEB's enlisted energy audit firms have completed ten IG Audits for grant recipients in Tranche 5 (four audits) and Tranche 6 (six audits).

CCEB started working with Infrastructure Development Company Ltd. (IDCOL), providing assistance in the development of an energy efficiency (EE) financing scheme at minimal interest rates. As a part of this work, CCEB and IDCOL worked to build capacity of the EE market by providing regular EE training sessions to various stakeholders. CCEB and IDCOL together successfully developed a curriculum for the training sessions. They completed a training session on May 25, 2016. Thirty total participants attended the workshop from diverse backgrounds mostly serving in financial institutions, energy firms, and technology service providing companies. Following the collaborative training program, CCEB is providing assistance for identifying potential EE projects and assisting in structuring processes. Through this, IDCOL will be able to finance EE projects per global best practices while adhering to eligibility criteria for their credit approval process.

CCEB provided bankers' training to IDLC this year and is now working with them to identify potential clients. CCEB engaged clients in IDLC's portfolio who have expressed interest towards accessing IDLC's soft loans for implementing EE projects. One client issued work orders for conducting an IG audit. IDLC approved term loan facilities for two clients who are already a part of CCEB's incentive fund program and common to IDLC's portfolio, for a total amount of $352,000 in loan financing. CCEB is supporting IDLC's development of a product entirely dedicated to financing EE initiatives; the product should be launched early in year 5.

Following CCEB's collaboration with International Finance Corporation's (IFC) Partnership for Cleaner Textile (IFC PaCT) and BRAC Bank (launching "Planet Solutions," the very first loan product entirely dedicated to financing EE projects), CCEB supports BRAC Bank with EE technical advisory services for evaluating potential projects. Three clients common to IFC and BRAC Bank have been approached and walk-through audits were conducted. These three companies now pursue IG audits with their own funds.

CCEB provided technical advisory services to Southeast Bank Limited, which is working with Global Climate Partnership Fund (GCPF) in developing projects and connecting them to trained energy auditing firms to successfully initiate the process of allocating and disbursing funds. Southeast Bank Limited has begun the process of enlisting audit firms to conduct due diligence on potential loans.

CCEB approved grant packages for Tranche 4 grantees, eight of whom began implementing the approved projects in year 4. CCEB approved an additional seven Tranche 5 grant proposals, and initiated work on six more. Tranche 6 grant applications are coming in; CCEB will develop and submit the grant packages to USAID for approve in the first quarter of year 5. CCEB has disbursed a total of BDT 31,792,473 ($408,631) since the project's start, and expects to disburse an additional BDT 16,848,000 ($216,000) in October 2016, bringing the total disbursed to over BDT 48,640,000 ($624,000).

CCEB's enlisted energy audit firms completed ten IG audits for grant recipients in Tranche 5 (four audits) and Tranche 6 (six audits). The plant owners incurred all audit costs.

CCCEB is working to register the AEE/Bangladesh Chapter, and submitted six copies of the Memorandum of Association (MOA) to the lawyer prior to publishing the Notice of Declaration in the newspapers. CCEB is working on the follow-on activities required to complete the lengthy registration process. Paperwork processing remains pending with both the legal advisor and the Ministry of Commerce.

Task 3 staff received a number of CVs from engineers interested in taking the planned Certified Energy Manager (CEM) training. Two CEM trainings were scheduled to take place from August 22 to September 1, 2016, but were postponed because of the heightened security situation in Dhaka.

Task 4 – Utility Demand Side Management: CCEB held discussions with BERC and Dhaka Electric Supply Company Limited (DESCO) on the load controller pilot program objectives, how the program might work, frequency of conservation periods for air conditioners, and measurement and verification systems. CCEB also met and discussed with Schneider Electric Company regarding equipment and software to be used for the pilot program. Due to security concerns, DESCO proposed that they host the pilot rather than an office building or commercial center (potentially a mall) as was originally agreed upon. CCEB felt having the utility itself be the piloting customer would not provide meaningful feedback from which a larger program could be extrapolated, resulting in the activity's cancellation. CCEB and BERC agreed to work in exploring opportunities to improve the Time of Use (TOU) tariff so that a 'shoulder' or 'super peak' tariff could be recommended through financial model analysis. Due to security concerns, CCEB has not been able mobilize the expat technical advisor to provide support to this effort. As discussed with the Contracting Officer's Representative (COR), this task will not be pursued in year 5.

Task 5 – Improved Cookstoves: Year 4 marked the 100,000th improved cookstove (ICS) sold in Bangladesh with ten manufacturers successfully operating in the sector. CCEB provided these firms with advice and support on ICS design and fabrication and assisted with business model development and market penetration. As a result of this assistance, the firms sold 108,979 ICS units in year 4, bringing the total sold in the first four years of CCEB's program life to over 131,000.

CCEB conducted community outreach events in 18 areas and helped manufacturers hold events in 32 more, bringing the total for year 4 field activities to 50 events that reached over 14,000 people. CCEB provided a total of 105,500 leaflets, 1,090 festoons, 40,475 posters, and four wall paintings to

counterpart ICS manufacturers to support the sale of ICS units. CCEB activities made an immense impact on familiarizing Bangladeshi people with ICS and on increasing sales in year 4.

CCEB also sponsored the Market Facilitation Platform (MFP), held in September with the theme of "Efforts towards a Robust and Sustainable Market." Over 150 stakeholders from donor organizations, national and international NGOs, ICS manufacturers and distributors, financial institutions, government officials, and the private sector participated in the event. The MFP showcased a number of locally produced ICS models from ten local ICS manufacturers and one pellet producer.

The project also announced a Request for Proposal (RFP) in an attempt to establish a nationwide market activation campaign. The goal of appointing a subcontractor through this RFP was to build upon previous successes at a much grander scale and for the steep expansion in the rate of ICS adoption across the country. However, the tender did not result in a selected winner. CCEB revised the Scope of Work and re-released the RFP. CCEB collected bids, is evaluating them, and expects to select a vendor in year 5's first quarter.

CCEB's work in attracting financing to the sector included engaging IDCOL for inclusion of ICS in their support program and engaging the Global Alliance for Clean Cookstoves (GACC) to provide financial support to meet the local manufacturers' need for capital. CCEB also engaged micro-financial institutions (MFIs) to provide microcredit for ICS sales to the customers. In Year 4, IDCOL approved three CCEB counterparts to receive support. Combined with the year 3 grants, CCEB mobilized over $310,000 for Bangladeshi ICS firms.

In the standards and testing domain, CCEB continued to help local manufacturers to develop, and improve performance and quality standards of locally produced ICS. In this regard, CCEB conducted the Water Boiling Test (WBT) for all local manufacturers and suggested necessary improvements and modifications.

CCEB-Wide Trainings and Workshops: CCEB trained 1,911 people through CCEB-organized trainings and workshops. The events included workshops in EE for textiles, frozen food, jute and steel re-rolling plants, ICS regional workshops, and the Market Facilitation Platform.

Performance Monitoring & Evaluation Plan: CCEB revised the year 4 Performance Monitoring & Evaluation Plan (PMEP) with updates for new targets for each indicator to align with CCEB's year 4 Work Plan. CCEB adopted new Global Climate Change (GCC) indicators into the PMEP for Indicators 1, 6, 8, and 10 based on the recommendation from the Monitoring and Evaluation (M&E) Working Group Meetings, which USAID approved in July 2015. CCEB will update the PMEP again to align with the year 5 Work Plan.

CCEB's mid-term evaluation was completed by an external firm during year 4. Implemented from December 2015 and finalized in January 2016, the mid-term review assessed CCEB's interventions based on the effectiveness of the programmatic approach, sustainability and gender integration themes. CCEB incorporated the mid-term review's recommendations and guidelines into year 4 program implementation.

In year 4, CCEB participated in all the trainings and workshops initiated by the Accelerating Capacity for Monitoring and Evaluation (ACME) project, which is USAID's M&E project. CCEB effectively incorporated revised guidelines and recommendations into the program activities. In September 2016, ACME introduced INSIGHT Roll-Out training, which focused on an online data update of project targets and results. From the last quarter of year 4, all CCEB performance indicator data are reported via the INSIGHT software, with brief performance summaries and justifications for those cases where CCEB exceeded or missed established performance indicator targets by greater or less than 10%. The project successfully updated into the INSIGHT system with CCEB's annual targets, achieved results and justification for the deviations for each indicator. CCEB also continues its monitoring activities for its ongoing interventions for each indicator.

Gender: CCEB completed gender activities in line with the project's established Gender Strategy. In year 4, CCEB trained 1,002 women in areas such as industrial energy auditing procedures, and cookstove marketing and sales. Fifty-one percent of all trainees were women. In Bangladesh, the majority of cookstove users are women, so Task 5 activities targeted women end users and entrepreneurs in knowledge sharing activities. Conversely, the majority of factory personnel and industry decision makers are male, so most Task 3 activity attendees were male. However, CCEB's Task 3 team created the first pool of women energy auditors ever in Bangladesh and engaged with female management staff handling climate change related investments at financial organizations.

Environment: CCEB was fully complaint with the project's approved Initial Environmental Examination (IEE). Prior to starting grant activities, CCEB completed Environmental Review and Assessment Checklists for all 23 approved grants covering all 65 Energy Efficiency Improvement Options (EEIOs), as were regular environmental monitoring activities during and after completion of the grant works (as per USAID regulations).

CCEB Communication: CCEB continued to maintain its Facebook page and a LinkedIn group page in year 4, allowing the program to increase both visibility and awareness amongst the stakeholders. CCEB regularly posted new program stories and successes with vibrant photos. Through the Facebook page alone, CCEB reached over 2,000 followers regularly and received feedback and suggestions. CCEB also redesigned the program's main webpage to make it more engaging and user-friendly. CCEB regularly updates the webpage with program news, events, success stories, and technical reports.

CCEB's communication staff also supported the technical task teams in outreach activities, such as arranging and conducting events, workshops, local and international trainings, managing media and the press, and developing campaign materials. Furthermore, CCEB provided continuous assistance in reviewing deliverables and quarterly, annual, and other reports.

Project Discussion – Progress Under Each Task/Sub-Task

The purpose of the Catalyzing Clean Energy in Bangladesh (CCEB) project is to support energy sector development for energy security, economic growth, and climate change mitigation. Over the five-year life of the project, CCEB is working to enhance the enabling environment, build capacity to design and implement supportive policies and regulations, and increase utilization of clean energy technologies for energy sector development on a low-carbon trajectory. It is focusing on reforming Bangladesh's energy enabling environment, promoting private sector investments in clean and renewable energy, building local capacity in EE and demand-side management, and implementing a comprehensive clean cook stoves initiative in rural and energy-deficient parts of the country.

Component A: Improve Enabling Environment for Low Emissions Development

Task 1: Improve Regulatory Environment for Clean Energy Development

In accordance with the approved Year 4 Work Plan, CCEB focused on capacity building of BERC, assisting BERC in EE initiatives, and the implementation of an e-docketing and data management system at BERC's main office. The CCEB team worked closely with the BERC Chairman, Commission members, and other senior and mid-level officials.

In year 4, CCEB continued to provide technical assistance and advisory services to BERC to obtain approval for the revised organizational structure developed in year 3. Upon approval of the revised organization structure, BERC will be able to recruit and retain an adequate number of qualified staff to carry out the functions mandated by the BERC Act 2003. Further, CCEB assisted BERC in revising the proposed organizational structure, taking into account the recent observations and decisions of the Committee of the Energy Division. On October 10, 2016, BERC re-submitted the revised proposal to the Energy Division for approval.

Additionally, CCEB worked with BERC to conduct an energy regulatory audit for the Ghorashal Power Plant (Unit 5, 210 MW), producing both an energy regulatory audit report for Ghorashal's Unit 5 and an audit manual. CCEB finalized the Ghorashal Power Plant audit report and the broader manual in September 2016 and submitted them to BERC. The audit report and companion audit manual will serve as a model and guide for conducting future power plant audits by power generation utilities for improving overall power generation efficiency to result in GHG emissions reduction.

With respect to the introduction of the electronic case docketing and data management (e-docketing) system at BERC, CCEB made significant advancement in year 4. CCEB refreshed the e-docketing proposal for implementation in a modular approach, beginning with a licensing function. BERC accepted the proposal. CCEB developed an EOI for the licensing function of the e-docketing system, with the intent of evaluating potential software development firms and to generate a shortlist of vendors for BERC's consideration and publication. In parallel, CCEB prepared an RFP for sharing with shortlisted software developers. CCEB assisted BERC's RFP Evaluation Committee to evaluate the submitted proposals. The evaluation report of technical proposals was submitted to the Commission and received approval to open the financial proposal of the technically qualified bidders. BERC will open the financial proposals early in year 5 (on October 24, 2016), and will evaluate them to select and contract a vendor for development and installation of the licensing module of the e-docketing system.

At the request of BERC, CCEB reviewed the draft FIT regulation for wind and solar energy, providing a revised FIT to BERC on February 18, 2016. The regulation stipulates procedures for determination of FITs for renewable energy generation facilities. Upon adoption, BERC will begin determining FITs for wind and solar energy on a *suo motu* basis annually, which will be applicable for the commissioned facilities in the respective years and connected to the electricity grid.

CCEB reviewed and finalized the "Draft Bangladesh Energy Regulatory Commission Imposition of Administrative Fine and Treating as Offence Regulations, 2014'' and submitted the final revised draft to BERC on January 7, 2016. The developed regulation will help BERC in achieving BERC orders compliance. Presently, BERC is reviewing the revised regulation to adopt.

CCEB likewise supported two BERC officials in participating in an international training program in Hungary. The participants attended the "Introduction to Energy Regulation" in Budapest, organized by the Energy Regulators Regional Association (ERRA). The two BERC officials successfully completed the training held on June 20 - 24, 2016. One of the participants placed second in the examination among 25 international participants. CCEB also assisted a BERC senior official to participate in PURC energy pricing training on July 31 - August 05, 2016 in Florida, USA. However, the BERC official could not participate in the training due to health reasons and returned to Bangladesh without having attended the course.

Year 4: Work Plan	Year 4: Accomplishments
1.1 Building and Implementing BERC Maturity Model	
The activities will include continued support for BERC to attain the target maturity goal, the BERC initiative for an appropriate organizational structure, and addressing and developing procedures needed to initiate clean energy development.	CCEB continued its technical assistance provision to BERC so that the revised BERC organizational structure could be considered by external government entities for implementation. CCEB's local organizational expert assisted BERC in preparation of responses to the observations from the Committee of the Energy Division; justifying the proposed structure and manpower. Further, CCEB assisted BERC in revising the proposed organizational structure, taking into account of the recent observations and decisions of the Committee. BERC re-submitted the revised proposal to Energy Division for reconsideration. CCEB completed an energy regulatory audit on Ghorashal Power Plant's Unit 5 and identified EE enhancements for the scope to develop the audit report and manual. CCEB reviewed and finalized reports taking feedback into account from BERC, BPDB, and Ghorashal Power Plant senior management. CCEB Submitted the final audit report and the audit manual to BERC. CCEB trained two BERC officials on "Introduction to Energy Regulation" in Budapest, Hungary organized by ERRA. The two officials successfully completed the training held on June 20 - 24, 2016. One of the participants placed second overall (out of 25 participants) in the post-training exam. CCEB also sent a BERC official to a PURC energy pricing training held on July 31 – August 05, 2016 in Florida, USA. Unfortunately, the BERC official could not participate in the training as he fell sick soon after his arrival in the USA. CCEB reviewed and revised the BERC Power Plant Energy Audit Regulations and formally submitted it to BERC. As requested by BERC, CCEB reviewed the draft FIT regulation for wind and solar energy and submitted the revised regulation on February 18, 2016. CCEB reviewed and finalized the draft "Bangladesh Energy

	Regulatory Commission Imposition of Administrative Fine and Treating as Offence Regulations, 2014'' and submitted the final revised draft to BERC on January 7, 2016. BERC is reviewing the revised regulation. CCEB reviewed and revised the draft "BERC Electricity Consumer Complaint Handling Procedures Regulations" and submitted it to BERC on June 28, 2016.
1.2 Expand BERC'S Case Docketing and Data Management System	
CCEB will continue to work with BERC leadership for obtaining necessary internal approvals for the funding and implementation of the case docketing and data management program. Once approved, CCEB will provide technical advisory services in the selection of service and equipment providers and in overseeing program rollout and delivery.	BERC approved a CCEB-refreshed EOI and RFP for the e-docketing system on March 30, 2016. The activity focuses on procuring and implementing software and hardware needed to transparently manage BERC's licensing function. CCEB provided leadership in preparing the original EOI and RFP as well as technical assistance in finalizing the documents. CCEB received responses by April 26, 2016, and the evaluation committee short-listed seven bidders for receipt of the full RFP. Six bidders submitted proposals on August 17, 2016. CCEB assisted BERC's RFP Evaluation Committee to evaluate the technical proposals. The evaluation report of technical proposal was completed and submitted to the Commission for approval and permission to open the financial proposal of the technically qualified bidders. On approval of the Commission, the financial proposals will be evaluated and the vendor will be selected for development and installation of the software for e-docketing of licensing function. CCEB will prepare the report on e-docketing in year 5 after completion of e-docketing work on the licensing function.
1.3 Strengthen BERC's Legal Capacity	
CCEB will continue to support BERC's initiative to structure and operationalize its legal department, address and develop necessary procedures and other materials for its functioning, and provide ad hoc regulatory advice on dispute settlement.	The revised BERC organizational structure developed by CCEB includes a legal department to support legal issues, litigation, arbitration, investigation, enforcement and other functions; incorporates monitoring and evaluation requirements; and introduces other functional responsibilities provided by the BERC Act 2003. The proposed revised organizational structure is in the approval process of the GOB.

Task 2: Strengthen Analytical Capacity for Energy Planning and Policy Making

CCEB completed all activities of Task 2 by the end of year 3. However, CCEB continued the follow-up of the use of both the Repository and the PSPAM tools by BPDB and Power Cell to ensure continuity and appropriate use.

USAID and the US Environmental Protection Agency arranged a technical session on "National Emissions Inventory" at the Department of Energy (DOE) on February 9, 2016 for capacity building of DOE sector leads, United Nations Development Program consultants, and other relevant GOB stakeholders. On behalf of Power Cell, Mr. Abdullah Al-Muhit presented the "GHG Data Repository Tool" developed by CCEB for comprehensive bottom-up accounting of power sector GHG emissions. He also explained that the tool estimates measureable and verifiable emissions by using IPCC

methods. Mr. Md. Ziaul Haque, Deputy Director, International Convention, DOE, mentioned that the Repository tool allows the Power Cell to manage GHG data in a complete and accurate manner. He further noted that if other organizations could also maintain their data in a similar manner, then this would greatly assist in the preparation of the national emissions inventory.

Component B: Increased Energy Efficiency and Conservation

The gap between the electricity supply and demand has grown steadily in Bangladesh. Meeting the rising energy demand exclusively through increases in supply without demand side management is an expensive and infeasible solution. Advancing the efficient use of energy is, therefore, crucial to addressing the twin challenges of energy security and greenhouse gas emissions mitigation.

Studies by the World Bank and GIZ show that significant commercially-viable opportunities for EE exist in Bangladesh. However, Bangladesh has not capitalized these opportunities for various reasons. Major barriers include lack of information and awareness about EE technologies and the associated costs and benefits, access to financing (as commercial banks are not geared for lending for EE), and lack of incentives for investment by end-users resulting from non-cost reflective electricity pricing.

Task 3: Industrial Energy Efficiency Analysis and Adoption

As of the end of year 4, CCEB achieved energy savings of, 2,389,978 gigajoules and carbon dioxide emissions reduction of 21,049 metric tons. In year 4, Task 3 activities continued to support long-term sustainability and replication by strengthening private and public sector capacity for EE project development, financing, and implementation through training of energy auditors/energy entrepreneurs and financial institutions. CCEB supported selected companies in implementation of the recommended EEIOs, while also continuing to complete walk-through and IG audits in the target industrial sectors. CCEB continued implementation of the Incentive Funds program to provide grants on a cost-share basis to qualified companies wishing to implement EE projects. CCEB also worked with the commercial banks and other lending institutions to mobilize funding for EE interventions and without the support of program funding. Lastly, CCEB was building on prior work to promote CEAs by supporting the operation of an Association of Energy Engineers Chapter in Bangladesh.

Year 4: Work Plan	Year 4: Accomplishments
3.1 Project Identification and Development	
In year 4, CCEB will work with audited companies to develop EEIOs as well as to promote the financing and implementation of these projects. This task team will continue to focus on factories particularly those that are export oriented except steel re-rolling industry. To increase industry stakeholder awareness, CCEB will hold workshops to present best practices and case studies relevant to the targeted industries at selected regional venues. Workshops will engage stakeholders including industrial trade associations, manufactures, and the plant personnel from the target industries. CCEB will also bring onboard local and international manufacturers, suppliers of EE technologies, such as LED lights, exhaust gas boilers, chillers, EE motor, inverters, and servo motors, to promote technology and EE features	CCEB's enlisted energy audit firms completed ten IG audits for grant recipients in Tranche 5 (four audits) and Tranche 6 (six audits), for which the plant owners provided financing themselves. CCEB needs to conduct additional IG audits to identify prospective grant recipients under Tranche 6. CCEB expects the total number of projects to reach 40, once Tranche 6 grantees have been identified. Four grant agreements from Tranches 2, 3, and 4 could not move ahead, so CCEB terminated the grant agreements. Similarly, six more projects remain at risk and CCEB anticipates that these grant agreements also will be terminated. These terminations will drop the number of active grant agreements from 33 to 23. The anticipated Tranche 6 agreements will bring the total number of active grants back up to 24. The inclusion of Tranche 6 will increase them to 34 grant agreements, some of which also required IG audits to develop. Because of the terminations, CCEB now has additional grant funds that needed to be allocated to a few more grant applicants. Thus, CCEB needs to fund additional IG audits to develop new grant applicants.

to all the stakeholders and especially the grantees, the WT, and IG audited factories. CCEB will also explore opportunities to participate in trade fairs organized by different stakeholders to showcase CCEB service offerings, highlight project achievements, and promote sustainable EE practices in the country. CCEB will continue to coordinate with other agencies (i.e., Japan International Cooperation Agency, IFC, World Bank, Asian Development Bank, and other donor agencies) to avoid duplication and synergize with their programs on cleaner production and energy efficiency.	CCEB held two regional workshops in year 4. CCEB held the first workshop on "Technical Best Practices on Industrial Energy Efficiency" in Chittagong and the second workshop on "Catalyzing Clean Energy in Bangladesh's Activities & Stakeholders' Engagement in Industrial EE" in Dhaka.
3.2 Financing Facilitation	
In year 4, CCEB will provide additional necessary support to the financial institutions to bring EE projects to closure. The CCEB team will provide additional technical advisory services and training to interested financial institutions who are actively working to develop their own pipeline of EE projects to finance, to build its capacity in identifying possible EE programs, and to assess IG energy audit reports for measures selection for EE financial institutions. CCEB will also encourage financial institutions to fund projects under the CCEB Incentive Fund. The Bangladesh Bank Green Banking Refinance Scheme requires an energy audit to be performed by a CEA to avail loan for EE financing. CCEB will be able to let the financial institutes to get access to its resources so that they can immediately launch into these projects for EE financing.	CCEB conducted trainings on EE financing with three financial institutions: IDCOL, Southeast Bank Ltd. (SEBL), and BRAC Bank Ltd. One-hundred loan officers and relationship managers received the training, which increased the total trained bank executives to 364 from nine banking and non-banking financial institutions in year 4. The training from BRAC Bank Ltd. resulted in two projects being financed by the bank in addition to the grant element in Tranche 6. The training from Southeast Bank Ltd. resulted in one of the CCEB subcontractors to start working under contract with the GCPF fund and SEBL providing technology advisory services to implement EE measures in a number of targeted industries. CCEB started working with IDCOL and providing assistance in the development of an EE financing scheme at low cost interest rates. As a part of this work, CCEB and IDCOL will be working to build capacity of the EE market by providing regular EE training sessions to various stakeholders. CCEB and IDCOL jointly have been able to develop the curriculum for the training sessions. CCEB successfully completed one training on May 25, 2016 with the first 30 participants coming from diverse backgrounds and mostly serving in financial institutions. Following the collaborative training program with IDCOL, CCEB is providing assistance for identifying potential EE projects and assisting in structuring processes. Through these processes, IDCOL will be able to finance EE projects per global best practices while adhering to eligibility criteria for their credit approval process.

	CCEB successfully initiated three projects with IDLC during LOP and is looking forward to starting to work on three more projects in the future. CCEB has entered into discussions with the Bangladesh Bank Training Academy and Bangladesh Institute of Bank Management, whose senior management demonstrated positive interest in promoting EE through jointly-developed training programs. CCEB leveraged $8.26 million through these initiatives from collaborating with financial institutions up to Year 4.
3.3 Incentive Funds (Grants)	
In year 4, CCEB will continue the disbursement of grants and monitoring of the EEIOs implemented by the grantees in Tranche 1, 2, 3, and 4. CCEB will evaluate applicants for Tranches 5 and 6 and award selected grantee. CCEB will work to reduce the grant percentage for the selected EE measures to the plants for Tranches 5 and 6 while providing increased technical advisory services and access to finance via the Bangladesh Bank Green Banking Refinance Scheme and through the interested financial institutions. Grant awards will be disbursed accordingly and monitored throughout the year. CCEB expects a majority of the Incentive Fund projects to be developed to a mature stage by the end of year 4. CCEB hopes that the market will be less dependent on grants funding and will be more inclined to the benefits of EE technologies through Bangladesh Bank's green loans.	CCEB evaluated grant proposals for 11 plants in Tranche 4. CCEB initially allocated grant amounts based on the Technical Evaluation Committee's (TEC) preliminary in-house evaluation. Ten factories decided to move forward in availing grants during the due diligence process. USAID already approved the grant packages for these ten plants; however, one grant recipient later requested termination of their grant agreement. One of the projects has been completed and closed out. Grant proposals for 14 plants in Tranche 5 have been evaluated and the grant amounts were initially allocated based on the preliminary in-house evaluation by the TEC. Eight factories decided to move forward in availing grants during the due diligence process. USAID approved all eight grant packages for the eight plants. The submission of grant applications for Tranche 6 has been kept open so that each application can evaluate as they come in. CCEB has already received three such applications, and they will be evaluated mid-October. CCEB is currently developing projects for more than eight plants for the rest of the grant amount to be allocated between them in the next quarter. CCEB has disbursed a total grant amount of $408,631 EEIOs installed in nine factories.
3.4 Capacity Building for Energy Sector Professionals	
In year 4, CCEB intends to conduct the first CEM course and a practical training session with the existing CEAs and the plant engineers for the basic auditing tools. Through this training program, trainees will be able to conduct energy audits at their respective plants by themselves.	CCEB conducted the 5th CEA certification course in March 2016 with 34 candidates taking part in this session. Of these, 27 passed the course, which increased the total number of CEAs to 115. Demand for CEA certifications has grown now to the point where trainings those certified can deliver training without requiring CCEB's support to do so. CCEB received CVs from applicants interested in participating in the upcoming CEM training. CCEB could not deliver the training as planned because of the change in the political scenario. The training will be

	postponed until year 5. CCEB procured energy audit tools from AEE-USA, and are now in Deloitte's possession. Because the CEM trainers could not travel to Bangladesh as planned, they were unable to carry over the tools. CCEB's home office will ship the tools to Dhaka during the first quarter of year 5. CCEB continues to provide support to AEE-Bangladesh as it works to register as an NGO. AEE-Bangladesh submitted six copies of the MOA to the lawyer hired to assist in the registration process, and a "Notice of Declaration" has been published in two newspapers. The processing of the paperwork is pending with the legal adviser and trade organization of the Ministry of Commerce.

Task 4: Demand Side Management (DSM) Programs for Electric Utilities

CCEB held discussions with BERC and DESCO on the load controller pilot program objectives, how the program might work, frequency of conservation periods for air conditioners, and measurement and verification systems. CCEB also met with and discussed with the Schneider Electric Company regarding equipment and software to be used for the pilot program. DESCO's inability to select a suitable customer group for the pilot resulted in the activity being cancelled. CCEB and BERC agreed to work in exploring opportunities to improve TOU tariff so that a 'shoulder' or 'super peak' tariff could be recommended through financial model analysis. Due to security concerns, CCEB was not able mobilize the expat technical advisor to provide support to this effort. As discussed with the COR, CCEB will not pursue this task in year 5.

Year 4: Work Plan	Year 4: Accomplishments
4.1 Evaluate Existing DSM Measures and Identify Improvements	
CCEB will initiate the design and implementation of a pilot load controller program.	CCEB held discussions with BERC and DESCO on the load controller pilot program objectives, how the program works, frequency conservation periods of air conditioners, and measurement and verification systems. CCEB also met and discussed with the Schneider Electric Company regarding equipment and software to be used for the pilot program. At first, DESCO agreed to implement the pilot with a third party customer (i.e. shopping center), but they finally decided to install the controllers with the AC units of their own office building due to EID time and security concern. To get the accurate and representative data from the pilot program, the engagement of a third party customer would be a better option.
4.2 Develop Tariff and Contract for Interruptible Customer	
No activity.	CCEB discontinued the sub-task due to lukewarm response from key stakeholders.

4.3 Explore the Opportunity to Introduce TOU Tariff for Commercial Customer	
CCEB will create a financial analysis model for TOU tariff benefits.	CCEB and BERC agreed to work on exploring opportunities to improve TOU tariffs so that they may recommend a shoulder or super peak tariff through a financial model analysis. During year 4, CCEB collected most of the tariff related data from DESCO for the analysis. The tariff expert (expat) has not completed the cost benefit analysis as he or she is unavailable to travel to Bangladesh due to security concerns.

Task 5: Market Analysis and Development for Improved Cook Stoves

Building upon successes resulting from CCEB's modified approach to market development implemented in Year 3, in year 4, CCEB sought to strengthen and expand the ICS market in Bangladesh to increase the quality and variety of portable, efficient, and affordable cook stoves in the country. CCEB provided support to expand manufacturing and ICS sales in Bangladesh. CCEB continued to provide service offerings developed in year 3, including technical advisory services on advancing ICS designs resulting in more efficient and user-friendly models and streamlining ICS production processes. CCEB assisted in refining business models and developing business plans to improve internal management as well as to attract external financing. CCEB provided support to establish dealer networks and provide marketing support, resulting in increased ICS sales nationwide. Specific to public awareness and market penetration, CCEB expanded marketing and sales support; assisted manufactures in developing and implementing market penetration plans; developed and produced marketing materials; facilitated linkages with private sector distributors, regional NGOs, and MFIs; and provided marketing materials development and sales training to regional distributors.

Regarding access to finance, in year 4 CCEB worked to ensure availability of financing for ICS expansion activities through establishing linkages with appropriate financing originations (commercial banks for production loans and MFIs for consumer loans). CCEB also worked closely with the World Bank and IDCOL to introduce a new working capital financing scheme for IDCOL Partner Organizations (POs). CCEB is working with banks to help them become educated about the ICS market so that they become more forthcoming to provide financing to the ICS manufacturer. CCEB is working with PKSF to provide consumer financing and financing to distributors towards the ICS consumers and players. Already 30 MFIs are providing consumer financing in the ICS market. CCEB is working to expand this base through using the large MFI network that PKSF has and broaden the market of ICS in the next year.

CCEB's work in attracting financing to the sector also included engaging GACC to provide financial support to local manufacturers in need of capital. This effort resulted in GACC providing grant support to Venus International Ltd, Eco Fuel, BD Vision, and Future Carbon Ltd. CCEB these manufacturers negotiate their agreements with GACC. In June 2016, GACC called for proposals for the "Capacity Building Support for Clean Fuel Enterprises." The request for proposals asked specifically for higher performing fuels and enterprises, performing at Tier 2 or better for efficiency, indoor and total emissions. CCEB helped Eco Fuel Industries Limited with its proposal submission.

In the standards and testing domain, CCEB continued to help local manufacturers develop and improve performance and quality standards of locally produced ICS. In this regard, CCEB conducted WBTs for all local manufacturers and suggested modification where needed. Also, recognizing the increased need for in-country reliable testing facilities and an agreed-upon standardized testing protocol, CCEB worked with local and international stakeholders towards establishing and standardizing testing protocols for new ICS models.

Lastly, CCEB organized the fourth ICS "Market Facilitation Platform" in year 4. Attended by over 150 participants, the event successfully increased awareness by stakeholders in the public and private sectors on advancements in ICS innovation and mitigating risks throughout the supply chain, increased visibility for ICS manufacturers, and fuel suppliers working in the sector. The event also showcased CCEB's efforts towards a robust and market development and creating a self-sustaining ICS market.

As a result of CCEB's ICS activities, the project successfully developed the market to a point where ten local ICS manufacturers are operating in Bangladesh, and through a network of over 150 regional distributors, the project introduced a total of 131,029 ICS units, with 108,979 ICS units introduced in year 4 alone.

Year 4: Work Plan	Year 4: Accomplishments
5.1 Market Development	
CCEB will continue to provide support in the development and strengthening of the ICS supply chain though linking existing and new ICS manufacturers with regional distributors, providing training and support for marketing and sales events, and collecting data on user preferences and adoption. CCEB will provide targeted assistance to introduce locally manufactured ICS units to the market through supporting large-scale market introduction campaigns. These will include the development of marketing campaigns, training of marketing and sales teams, and support for market penetration activities. CCEB will also develop, print, and distribute supporting marketing materials as promotional effort for partner manufacturers and distributors.	In year 4, CCEB continued the development and introduction of marketing campaigns, training for marketing and sales teams, and support for market penetration activities. CCEB undertook a market penetration campaign for all manufacturers in several districts of the country. Promotional activities included workshops with opinion leaders and local government representatives, school sessions with local students, live demonstrations of the ICS models in and around the cities, and cooking competitions paired with local fairs and ICS user visits. In collaboration with local distributors and MFIs, CCEB organized 50 community events reaching 14,400 people and over 1,800 students in 30 schools. The team provided batches of marketing materials, including 105,500 leaflets, 40,475 posters, and 1,090 festoons to all manufacturers for greater visibility of their products. With CCEB's continued effort in ICS market development, the fourth year also marked the 100,000th ICS unit sold since the project started. By the end of year 4, CCEB helped introduce 131,029 ICS units, with 108,979 introduced in year 4 alone. This represents rapid growth in the ICS market. The year ended with the fourth annual MFP event, "Efforts Towards a Robust and Sustainable Market," with discussions on the ICS innovation and sustainability and mitigating risks throughout the supply chain.

5.2 Enterprise Development and Access to Financing	
The purpose of the Enterprise Development and Access to Finance sub-task is to strengthen commercial management capabilities and financial balance sheets of ICS manufactures and distributors to make them sufficiently attractive to receive external financing as needed. CCEB will provide targeted TA support to domestic ICS manufacturers and distributors on technical issues (ICS design, manufacture, etc.) and on commercial issues (business model development, business plan preparation, manufacturer-distributor linkages, etc.). For Task 5, CCEB will train and mentor ICS enterprises to develop their market approach, focusing on business models, business plans, financial models, and effective marketing strategies; organize workshops to link local NGOs with micro finance activities and MFIs with ICS manufacturers to create a pool of ICS distributors/retailers/ICS sales agents; provide TA support to local ICS manufacturers to apply for specific social development grant fund and/or apply for loan from commercial banks/financial institutions; facilitate entry of additional ICS manufactures into the IDCOL program; and provide business development support to pellet manufacturers and help develop their supply chains.	In year 4, CCEB continued to build linkages with local commercial banks, MFIs, carbon financiers, donors, and private sector firms operating CSR projects. CCEB continued to link ICS stakeholders in need of funding with appropriate institutions and provide development support for required loan or grant applications and supporting documentation (business plans, financial models, etc.). CCEB's first capacity building step was provide appropriate corporate advisory services to the ICS manufacturers. CCEB met with the manufacturers individually to understand their business model and assess their weaknesses. CCEB observed that many ICS manufacturers lack appropriate corporate structures. A few manufacturers set the ICS business as a division of the parent company. Such a structure gives little incentive to financiers to provide financing to ICS specifically. In addition, the issue of corporate governance, which has become quite important in providing funding, is missing in these companies. CCEB worked closely to address these issues and provide corporate advisory services to the ICS manufacturers. In order to help address the above-mentioned weaknesses, in April 2016, CCEB scheduled a meeting/workshop with all its supported ICS manufacturers. In the meeting, CCEB presented the importance of having proper legal standing, the benefits of having accounting processes, and incorporating corporate governance guidelines. In April 2016, GACC introduced the BOOST Workshop to provide the catalytic small grants fund. CCEB worked with the manufacturers and helped them develop presentations for their pitch to qualify in the first round of the application process. After the first round, four firms qualified for the second round, and three signed LOCs with CCEB. In the second round, Task 5 worked with all the manufacturers in order to create detailed business plans, including financial projections for the next four years. After the second phase, three firms were finally selected to receive grants; all of them had LOCs with CCEB. After GACC awarded approximately $150,000 in grant financing to three manufacturers, Task 5 worked with the manufacturers in reviewing the legal documents, targets set by GACC and other issues. CCEB worked very closely with GACC to combine enterprise development and access to financing together in a package deal. GACC had earlier hired Toru, a consultancy firm, and BDO, an audit firm with business consulting services. Toru provides a three-month training based on management and marketing. BDO is providing a three-day training on legal and accounting issues that different organizations face. CCEB worked closely with Toru and especially BDO to

	create a training schedule based on CCEB's experience. CCEB will continue to work with BDO and GACC to conduct the next two trainings. CCEB is also working with banks for attending the next trainings to develop a good relationship between the banks and the manufacturers by the time the third training takes place. In June 2016, GACC requested proposals for the "Capacity Building Support for Clean Fuel Enterprises." The call for proposals specified higher performing fuels and enterprises, performing at Tier 2 or better for efficiency, indoor and total emissions. The Global Alliance's partner, ENEA Consulting, would perform a combination of desk and in person support to the selected enterprises, working with them to identify their fuel production potential to help them set strategic targets. GACC intends to select between three to five fuel enterprises to receive capacity building support. The work will be conducted over a period of five months from August to December 2016. For the access to finance component, CCEB held meetings with potential donors and lenders. CCEB held the series of meetings with three counterparts, The World Bank, IDCOL, and GACC. CCEB worked closely with Eco Fuel, a pellet manufacturer to apply for this scheme. Eco Fuel performed the following activities: • Registration of Eco Fuel's pellets with GACC • Submission of a project plan • Completion of an application form • Provision of supplemental information Lastly, CCEB started working with the new manufacturers to improve utilization of capacity as well as strengthen ICS supply chains and markets, supporting greater capacity, more efficient production, and distribution of optimized products that will help enterprises overcome market barriers to scale, strengthen their business models, and influence government and investor support for more efficient and cleaner cooking. Through working with the manufacturers and IDCOL, seven models of the ICS manufacturers were approved for the IDCOL ICS Program. CCEB had been working with IDCOL to help them develop their new portable Tier 2 stove.
5.3 Capacity Building for Financial Institutions	
The purpose of the Capacity Building for Financial Institutions sub-task is to build the capacity of banking and non-banking financial institutions to develop and deploy viable financial products for the ICS marketplace and to connect ICS	The World Bank expressed interest in arranging financing for the ICS manufacturers; however, the financing will be through World Bank/IDCOL-ICS Support Program. The World Bank contacted IDCOL about this issue. IDCOL verbally agreed to finance the ICS manufacturers so that appropriate financing could be provided to them. CCEB worked closely with IDCOL to formulate a financing plan

entrepreneurs with sources of finance. CCEB will engage various financial institutions, including commercial banks, MFIs, carbon financiers, and donor-supported loan programs. CCEB will identify and catalog opportunities for financing from conventional and non-conventional sources. For Task 5, CCEB will assist FIs/NBFIs in developing financing for ICS sector and organize a workshop/ information session to explain the opportunity to gain access to a green banking loan and/or micro loan from PKSF.	that appropriately caters to the needs of the manufacturers as well as IDCOL POs. CCEB worked with IDCOL to arrange a working capital financing scheme for POs and ICS manufacturers. The scheme will help CCEB-supported ICS manufacturers and IDCOL POs gain access to the needed financing. Major festivals in Q4 of year 4 delayed the program; however, CCEB anticipates during Q1 of year 5 that POs and manufacturers will take advantage of the new financing arrangement. In addition to providing financing to the ICS manufacturers, two other parties, the regional distributors and the consumers/end-users, also need of financial assistance. Regional distributors need working capital loans to purchase products from ICS manufacturers. Consumers/end-users also need consumer financing to purchase the ICS units. In this regard, CCEB has engaged the Palli Karma Sahayak Foundation (PKSF) to utilize their extensive MFI network for expanding the ICS market. Already more than 30 MFIs provide consumer financing towards ICS procurement. In year 5, CCEB plans to build on the relationship with PKSF to conduct trainings with MFIs with the goal of popularizing a consumer financing scheme for ICS consumers. PKSF agreed to conduct a joint training early in year 5.
5.4 Standards and Protocols	
CCEB will support GACC's ongoing efforts to establish and develop a national ICS standard in Bangladesh. CCEB will also create and enforce standards for ICS design through the ISO authority in accordance with the Country Action Plan, which establishes that GACC has the leadership role in Standards and Protocols-related activities. CCEB will coordinate with all stakeholders involved in establishing national ICS standard and stove testing protocol and improve CCEB supported ICS to meet international standard. Under this sub-task, CCEB will liaise with GACC HQ and local point of contact for developing a national ICS standard, provide WBT support to new produce developers using in-house TA and equipment, provide support to test local ICS products at internationally recognized ICS testing and development laboratories, and seek	CCEB provided technical advisory services to local manufacturers to improve ICS unit designs and increase unit efficiency so as to have the units included in the World Bank/IDCOL-ICS Program. CCEB conducted Water Boiling Tests (WBT) for several year 4 partner local manufacturers. Based on the results, recommendations were given to modify the design unit such a time as they tested at the either the Tier 2 or Tier 3 levels. CCEB assisted Bangladesh Standard Testing Institution (BSTI) in forming the draft National Standard protocol and will submit it to the International Standard Organization (ISO) for finalizing. CCEB's technical team is currently assisting the World Bank and GACC to assess testing services in Bangladesh in order to ensure improved services in the future.

recommendations to improve performance and safety standards of ICS. CEEB will assist organizations providing interim ICS testing services to improve testing protocols.	
5.5 Coordination	
The purpose of the Coordination sub-task is to coordinate with the GOB and relevant stakeholders to build a strong foundation for the ICS sector and enhance the availability of ICS products throughout the country. In accordance with the Country Action Plan, CCEB will support the GOB, GACC, developing players in the ICS manufacture and distribution business, and NGOs/CBOs in efforts to coordinate market development activities in the ICS sector. Under this sub-task, CCEB will conduct or participate in coordination meetings with GACC, Power Division, and other relevant stakeholders on activities focused on long-term market sustainability. CCEB will draft and fully execute at least five Letters of Collaboration with stakeholders in the ICS marketplace to codify agreed upon areas of cooperation. CCEB will provide support to the Power Division to implement the Household Energy Platform.	In year 4, CCEB signed Letters of Collaboration (LOCs) with six stakeholders, including Luxur Green Energy ltd., Life Engineering, BD Vision, Social Development Organization of Bangladesh (SDOB), the Global Alliance for Clean Cookstoves, and Eco Fuel. Through signing the LOCs, all parties codify their commitment to create a thriving ICS market through improved technical design, manufacturing, and product marketing. As prescribed in the LOCs, CCEB is providing TA to link manufacturers and distributors, develop business plans, deliver training, develop communication and promotional materials, and provide other market-based activities. The counterparts agree to make their best efforts to actively supply, distribute, sell, and establish a market for ICS. CCEB also continued to promote the Household Energy Platform and to strengthen working relations between key stakeholders, including the government, donors, private sector players, and NGOs. In addition, CCEB organized and participated in events marking significant awareness for developers in the ICS markets. One of the key coordinating components for CCEB was holding the fourth Market Facilitation Platform (noted in Sub-Task 5.1) where CCEB brought together all ICS stakeholders, including prominent GOB officials and private sector players, and discussed ways to drive the market towards long-term sustainability. CCEB also conducted regular coordination meetings with key stakeholders such as the World Bank, IDCOL, GACC, and the GOB. In addition, CCEB is assisting GACC with their Behavioral Change Campaign promotional events in 12 districts.

6.0: Cross-Cutting Issues

CCEB completed the following ancillary activities during year 4:

6.1 Gender Issues

CCEB requires continued practice of gender sensitive programming in the clean energy development. CCEB designs specific interventions to address the barriers women face with respect to energy technologies and services.

ACCOMPLISHMENTS THIS YEAR:

CCEB incorporated previously identified gender-related mainstreaming activities highlighted in the CCEB's gender strategy to integrate gender equality and USAID's female empowerment policy for the implementation of each task. Under Task 1, CCEB considered gender issues in the design and implementation of public outreach and consumer groups' capacity building efforts, e.g., tailoring outreach events towards stakeholders in a gender-specific way, providing technical support for female-based civil society organizations. Under Task 3, the team targeted many industries that not only employ a high ratio of female workers, but also those that are female-owned. Under Task 5, the team looked to address the needs of female cook stove users and supported the scale-up of stove models that meet the identified needs and have benefits for female users. For regional and local level campaigns for the improved cook stoves promotion, the team also emphasized to secondary girls' school students for raising their awareness on using improved cook stoves and benefits for health and efficiency. In year 4, about 53% of all participants attending CCEB-supported trainings and workshops were female (1,002 out of 1, 911 participants).

6.2 CCEB Communication

CCEB continued to maintain its Facebook page and a LinkedIn group page in year 4, allowing the program to increase both visibility and awareness amongst the stakeholders. Through the Facebook page alone, CCEB has over 2,000 regular followers reached weekly with new stories and successes stories. CCEB also redesigned the program's main webpage to make it more engaging as well as more user-friendly. The webpage is regularly updated with program news, events, success stories, and technical reports.

6.3 Performance Monitoring and Evaluation Plan (PMEP)

CCEB revised the year 4 Performance Monitoring & Evaluation Plan (PMEP) with updates for new targets for each indicator and alignment with CCEB's year 4 Work Plan. CCEB adopted new GCC indicators into the PMEP for Indicators 1, 6, 8, and 10 based on the recommendations from the Monitoring and Evaluation (M&E) Working Group Meetings approved by USAID in July 2015. CCEB's PMEP will be updated again to align with the year 5 Work Plan.

USAID hired an external frim to complete the CCEB mid-term evaluation in year 4. The review began in December 2015 and concluded in January 2016, and assessed CCEB's interventions based on the effectiveness of the programmatic approach, sustainability, and gender integration themes. CCEB incorporated the recommendations and guidelines of the mid- term review into the year 4 program implementations.

In year 4, CCEB participated in all the trainings and workshops initiated by the Accelerating Capacity for Monitoring and Evaluation (ACME) project, which is USAID's M&E project. CCEB effectively incorporated revised guidelines and recommendations into program activities. In September 2016, ACME introduced INSIGHT Roll-Out training, which focused on online data update of project targets and results. From the last quarter of Year 4, CCEB is reporting all performance indicators data via the INSIGHT software, with a brief performance summary and justifications for those cases where CCEB exceeded or missed established performance indicator targets by greater or less than 10%. The

project successfully updated CCEB's annual targets into the INSIGHT system and achieved results and justifications for the deviations for each indicator.

6.3 Environmental Monitoring and Mitigation Plan (EMMP)

As part of its initial Work Plan, and all Annual Work Plans thereafter, the contract, in collaboration with the USAID Contracting Officer's Representative (COR) and Mission Environmental Officer (MEO) or Bureau Environmental Officer (BEO), as appropriate, shall review all ongoing and planned activities under this contract to determine if they are within the scope of the approved Regulation 216 environmental documentation.

CCEB forwarded the EMMP to USAID for review in August 2013. As suggested in the training on "Environmental Mitigation and Monitoring Plan Preparation and Implementation" organized by USAID on June 2016, CCEB undertook initiatives for incorporation of the recommended measures in the implementation phase, although the project has little potential for substantial adverse environmental effects.

A high-level USAID Environmental Compliance team composed of Mr. Andrei D. Barannik, Regional Environmental Adviser for Central and South Asia and the Office of Afghanistan and Pakistan Affairs, and Ms. Sultana Rebeka Akhter, Mission Environmental Officer, visited CCEB's grantee Tarasima Apparels Ltd. on June 28, 2016. The team was pleased with CCEB's approach to environmental monitoring and mitigation and with the measures by the grantee in the areas of environmental protection, health, and safety. The team recommended some guidelines for further improvements, which CCEB adopted. CCEB completed the Environmental Review and Assessment Checklists for all 23 approved grants covering all 65 EEIOs, which were regular environmental monitoring activities during and after completion of the grant works (per USAID regulations). CCEB was fully complaint with the project's approved IEE.

6.4 Year 4 Work Plan

CCEB developed the Year 4 Work Plan, and USAID approved it on November 11, 2015. CCEB organized monthly progress review meetings with USAID facilitated by the CCEB COP to show the progress of the activities and deliverables outlined in the work plan. In each meeting, CCEB Task Leaders presented the progress of activities, and the USAID Contracts Office Representative provided feedback and guidance on how to more effectively implement the program. The CCEB team noted the main discussions and decisions of the meetings and circulated the meeting notes for implementing the decisions.

PERFORMANCE INDICATOR RESULTS AGAINST TARGETS

The CCEB project actively tracks performance indicator results against targets and a summary is presented as follows:

Indicator 1: Quantity of greenhouse gas emissions, measured in metric tons of CO2e, reduced or sequestered as a result of USG assistance

PERFORMANCE INDICATOR VALUES

Baseline Year	Baseline Value	Program Year Actual + Rev. Targets								Original Program Year Targets						Total
2012	0	FY 13 Actual	FY 14 Actual	FY 15 Actual	FY 16 Rev. Target	FY 16 Actual end of Q4	FY 16 Rev. Target Remaining	FY 17 Rev. Target	LoP Actual + Rev. Target	FY 13 Target	FY 14 Target	FY 15 Target	FY 16 Target	FY 17 Target	Total Target	Actuals to Date
Target		0	1,481	46,948	155,188	242,385	-87,197	453,708	744,522	0	108,211	104,259	138,759	160,344	511,573	**290,814**
Disaggregated Targets																
Textiles EE Projects		0	0	2,498	18,140	17,894	246	39,879	60,271	0	5,411	15,307	34,566	46,603	101,887	20,392
Steel Re-rolling EE		0	0	984	1,987	2,893	-906	1,749	5,626	0	-	11,548	26,516	36,064	74,128	3,877
Jute EE Projects		0	0	0	5,573	0	5,573	14,861	14,861	0	-	249	465	465	1,179	-
Frozen Foods EE		0	0	163	1,156	262	894	3,264	3,689	0	-	55	112	112	279	425
Installed Cookstoves		0	1,481	43,303	128,332	221,336	-93,004	393,955	660,075	0	102,800	77,100	77,100	77,100	334,100	266,120
Actual										*Recorded in CCEB Data Tracking System*						

THIS SHEET LAST UPDATED ON: 15 November 2016

Indicator 2: Number of institutions with improved capacity to address clean energy issues as a result of USG assistance

PERFORMANCE INDICATOR VALUES

Baseline Year	Baseline Value	Program Year Actual + Rev. Targets								Original Program Year Targets						Total
2012	0	FY 13 Actual	FY 14 Actual	FY 15 Actual	FY 16 Rev. Target	FY 16 Actual end of Q4	FY 16 Rev. Target Remaining	FY 17 Rev. Target	LoP Actual + Rev. Target	FY 13 Target	FY 14 Target	FY 15 Target	FY 16 Target	FY 17 Target	Total Target	Actuals to Date
Target		2	14	35	29	22	7	7	80	0	25	5	24	0	54	**73**
Disaggregated Targets																
Governmental		2	2	0	0	0	0	0	4	0	2	2	1	0	5	4
Private sector		0	3	21	19	17	2	2	43	0	14	0	20	0	34	41
Utility		0	2	0	0	0	0	0	2	0	2	1	1	0	4	2
Other		0	7	14	10	5	5	5	31	0	7	2	2	0	11	26
Actual										*Recorded in CCEB Data Tracking System*						

THIS SHEET LAST UPDATED ON: 15 November 2016

Indicator 3: Number of people trained in energy, technical, business, and/or regulatory practices

PERFORMANCE INDICATOR VALUES

Baseline Year	Baseline Value	Program Year Actual + Rev. Targets								Original Program Year Targets						Total
2012	0	FY 13 Actual	FY 14 Actual	FY 15 Actual	FY 16 Rev. Target	FY 16 Actual end of Q4	FY 16 Rev. Target Remaining	FY 17 Rev. Target	LoP Actual + Rev. Target	FY 13 Target	FY 14 Target	FY 15 Target	FY 16 Target	FY 17 Target	Total Target	Actuals to Date
Target		57	504	1,965	800	1,911	-1,111	2,374	6,811	56	317	1,076	1,040	1,020	3,509	**4,437**
Disaggregated Targets																
Governmental		6	52	32	0	12	-12	14	116	6	19	16	0	0	41	102
Private sector		37	107	470	150	450	-300	500	1564	36	45	40	20	20	161	1,064
Utility		6	0	1	0		0	0	7	6	15	20	20	0	61	7
Academic		6	1	667	400	789	-389	900	2363	6	0	600	600	600	1,806	1,463
Entrepreneur/Other		2	344	795	250	660	-410	960	2761	2	239	400	400	400	1,441	1,801
Female		4	85	747	240	1002	-762	1198	3036	4	111	377	364	357	1,213	1,838
Male		53	419	1218	560	909	-349	1176	3775	52	206	699	676	663	2,296	2,599
Actual										*Recorded in CCEB Data Tracking System*						

THIS SHEET LAST UPDATED ON: 15 November 2016

Indicator 4: Number of laws, policies, strategies, plans, agreements, or regulations addressing clean energy related measures officially proposed, adopted, or implemented as a result of USG assistance

PERFORMANCE INDICATOR VALUES

Baseline Year	Baseline Value	Program Year Actual + Rev. Targets								Original Program Year Targets						Total
2012	0	FY 13 Actual	FY 14 Actual	FY 15 Actual	FY 16 Rev. Target	FY 16 Actual end of Q4	FY 16 Rev. Target Remaining	FY 17 Rev. Target	LoP Actual + Rev. Target	FY 13 Target	FY 14 Target	FY 15 Target	FY 16 Target	FY 17 Target	Total Target	Actuals to Date
Target		0	2	5	2	2	0	1	10	0	2	3	3	2	10	**9**
Disaggregated Targets																
Task 1 Regulations,		0	2	2	2	2	0	0	6	0	2	1	1	1	5	6
Task 2 Plans, Strategies, Policies		0	0	1	0	0	0	1	2	0	0	2	2	1	5	1
Task 3 Industrial Energy Efficiency		0	0	2	0	0	0	0	2	0	0	0	0	0	0	2
Actual										*Recorded in CCEB Data Tracking System*						

THIS SHEET LAST UPDATED ON: 15 November 2016

Indicator 5: Rating increase in organizational capacity based on maturity model scorecard

PERFORMANCE INDICATOR VALUES

Baseline Year	Baseline Value	Program Year Actual + Rev. Targets								Original Program Year Targets						Total
2012	TBD	FY 13 Actual	FY 14 Actual	FY 15 Actual	FY 16 Rev. Target	FY 16 Actual end of Q3	FY 16 Rev. Target Remaining	FY 17 Rev. Target	LoP Actual + Rev. Target	FY 13 Target	FY 14 Target	FY 15 Target	FY 16 Target	FY 17 Target	Total Target	Actuals to Date
Target		N/A	11%	N/A	45%	0	45%	55%	55%	N/A	20%	30%	45%	55%	55%	**11%**
Actual										*Recorded in CCEB Data Tracking System*						

THIS SHEET LAST UPDATED ON: 15 November 2016

Indicator 6: Expected lifetime energy savings from energy efficiency or enery conservation as a result of USG assistance

PERFORMANCE INDICATOR VALUES

Baseline Year	Baseline Value	Program Year Actual + Rev. Targets								Original Program Year Targets						Total
2012	0	FY 13 Actual	FY 14 Actual	FY 15 Actual	FY 16 Rev. Target	FY 16 Actual end of Q4	FY 16 Rev. Target Remaining	FY 17 Rev. Target	LoP Actual + Rev. Target	FY 13 Target	FY 14 Target	FY 15 Target	FY 16 Target	FY 17 Target	Total Target	Actuals to Date
Target		0	0	627,737	3,701,979	2,389,978	1,312,001	5,381,368	8,399,083	0	95,939	482,589	1,095,781	1,479,859	3,154,168	**3,017,715**
Disaggregated Targets																
Textiles EE Projects		0	0	356,804	2,630,719	2,304,218	326,501	3,683,104	6,344,126	0	53,850	272,364	615,051	829,230	1,770,495	2,661,022
Steel Re-rolling EE		0	0	262,935	139,370	80,580	58,790	119,184	462,699	0	41,309	205,485	471,811	641,709	1,360,314	343,515
Jute EE Projects		0	0	-	837,603	-	837,603	1,200,564	1,200,564	0	724	4,423	8,269	8,269	21,686	-
Frozen Foods EE		0	0	7,998	94,287	5,180	89,107	378,516	391,694	0	57	317	650	650	1,674	13,178
Actual										*Recorded in CCEB Data Tracking System*						

THIS SHEET LAST UPDATED ON: 15 November 2016

Indicator 7: Number of clean energy initiatives implemented

PERFORMANCE INDICATOR VALUES

Baseline Year	Baseline Value	Program Year Actual + Rev. Targets								Original Program Year Targets						Total
2012	0	FY 13 Actual	FY 14 Actual	FY 15 Actual	FY 16 Rev. Target	FY 16 Actual end of Q4	FY 16 Rev. Target Remaining	FY 17 Rev. Target	LoP Actual + Rev. Target	FY 13 Target	FY 14 Target	FY 15 Target	FY 16 Target	FY 17 Target	Total Target	Actuals to Date
Target		4	17	52	140	105	35	100	280	1	27	79	121	67	295	**178**
Disaggregated Targets																
Energy Sector Planning			1	0	0	0	0	0	1		1				1	1
EE Industrial Projects		3	9	40	66	35	31	47	134	0	19	72	114	67	272	87
Utility DSM Programs			2	0	2		2	0	4	0	2	2	2	0	6	2
Cookstoves Sector Dev		1	5	12	72	70	2	53	141	1	5	5	5	0	16	88
Actual										*Recorded in CCEB Data Tracking System*						

THIS SHEET LAST UPDATED ON: 15 November 2016

Indicator 9: Number of improved cookstoves installed as a result of USG assistance

PERFORMANCE INDICATOR VALUES

Baseline Year	Baseline Value	Program Year Actual + Rev. Targets								Original Program Year Targets						Total
2012	0	FY 13 Actual	FY 14 Actual	FY 15 Actual	FY 16 Rev. Target	FY 16 Actual end of Q4	FY 16 Rev. Target Remaining	FY 17 Rev. Target	LoP Actual + Rev. Target	FY 13 Target	FY 14 Target	FY 15 Target	FY 16 Target	FY 17 Target	Total Target	Actuals to Date
Target		0	729	21,321	100,000	108,979	-8,979	193,971	325,000	0	100,000	75,000	75,000	75,000	325,000	**131,029**
Disaggregated Targets by Region																
TBD																
Actual										*Recorded in CCEB Data Tracking System*						

THIS SHEET LAST UPDATED ON: 15 November 2016

Indicator 10: Number of person hours of training compeleted in climate change as a result of USG assistance

PERFORMANCE INDICATOR VALUES

Baseline Year	Baseline Value	Program Year Actual + Rev. Targets								Original Program Year Targets						Total
2012	0	FY 13 Actual	FY 14 Actual	FY 15 Actual	FY 16 Rev. Target	FY 16 Actual end of Q4	FY 16 Rev. Target Remaining	FY 17 Rev. Target	LoP Actual + Rev. Target	FY 13 Target	FY 14 Target	FY 15 Target	FY 16 Target	FY 17 Target	Total Target	Actuals to Date
Target		1,416	4,327	10,982	5,132	7,793	-2,661	10,738	35,256	1,416	4,327	10,982	5,132	2,450	24,307	**24,518**
Disaggregated Targets by Gender																
Female		96	698	2,414	1,539	3,720	-2,181	4,355	11,283	96	698	2,414	1,539	735	5,482	6,928
Male		1,320	3,629	8,568	3,593	4,073	-480	6,383	23,973	1,320	3629	8,568	3,593	1,715	18,825	17,590
Actual										*Recorded in CCEB Data Tracking System*						

THIS SHEET LAST UPDATED ON: 15 November 2016

Plans for the First Quarter Year 5

CCEB will devote next year's first quarter to completing the Year 5 Work Plan and continuing implementation activities across all tasks.

Task 1: CCEB will continue to work closely with BERC to select and deploy a vendor for software development for the e-docketing system specific to the licensing function. In addition, CCEB commenced reviewing and revising the BERC Employees' Service Regulations and will submit to BERC for adoption. CCEB will continue to provide as-needed assistance to BERC for the presentation of the proposed revised organizational structure to various ministries and preparation of briefs and replies to the queries of the various ministries and departments of the government to facilitate obtaining approval of the government. CCEB expects to undertake review and finalization of the draft BERC Transmission Tariff Regulations, BERC Distribution Tariff regulations, and BERC Generation Tariff Regulations in English. CCEB will also continue to provide *ad hoc* regulatory advisory service to BERC.

Task 2: There are no Task 4 activities planned for year 5.

Task 3: CCEB will continue the monitoring and assessment of the completed EEIOs of Tranches 1 through 5 to track differences between actual and expected energy savings to assess CCEB's standing in the overall targets for each of the indicators. CCEB will closely monitor the implementation of the remaining EEIOs for their completion per the period of performance under the grant contracts. CCEB will evaluate applications of Tranche 6 individually and on an *ad hoc* basis and submit the grant agreement packages to USAID for review/approval. CCEB will continue to support and work with donor agencies, such as NCCI, JICA, and GIZ; financial institutions, such as the IFC PaCT program, BRAC Bank, City Bank, Southeast Bank, IDCOL, and the World Bank; prominent business associations, such as FBCCI, BGMEA, BKMEA, BTMA, steel re-rolling mills association, frozen food associations, and jute associations; engineering communities, such as IEB; and technology service providers to promote EE and provide the needed advisory services. CCEB expects the AEE-Bangladesh Chapter to be registered by the end of the year. AEE-Bangladesh will conduct practical audit sessions using energy audit tools as soon as the tools arrive in Dhaka. CCEB will undertake further promotional activities with other business institutions, development agencies, and government entities. For Task 3, CCEB will arrange a workshop with BGMEA in Chittagong at BGMEA Bhaban in the first quarter.

Task 4: There are no Task 4 activities planned for year 5.

Task 5: CCEB will provide Task 5's contribution to the CCEB year 5 Work Plan and finalize all remaining deliverables for submission to USAID. CCEB will hold regular meetings with relevant stakeholders, including financial and donor organizations. CCEB will develop, print, and distribute marketing materials for Green Cookstove and Grehiny. CCEB will also begin wall paintings in phases for selected manufacturers during two community outreach programs. In addition, CCEB will provide need-based support to manufacturers regarding testing and supply chain development.